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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of	)	
	)	
Price Cap Performance Review for Local Exchange Carriers	)	CC Docket No.94-1
	)	
	)	
Access Charge Reform	)	CC docket No.96-262

REPLY OF THE AD HOC TELECOMMUNICATIONS USERS COMMITTEE TO OPPOSITIONS TO ITS PETITION FOR RECONSIDERATION

The Ad Hoc Telecommunications Users Committee ("Ad Hoc" or the "Committee") hereby replies to oppositions to its petition for reconsideration in the above-captioned proceeding. The commentors have failed to refute Ad Hoc's request for reconsideration of the *Fourth Report and Order in CC Docket No. 94-1* and the *Second Report and Order in CC Docket No. 96-262.*[1]

I. NO PARTY HAS SHOWN THAT AD HOC USED PROPRIETARY SOFTWARE

Several parties support the Commission's decision to reject Ad Hoc's Total Factor Productivity (TFP) model due to its alleged use of a "proprietary format of a commercial software program."[2] Bell Atlantic suggests that in the "spreadsheet" type of models that were submitted by United States Telephone Association ("USTA") and AT&T "all of the operations of the model were specified and any party could review the

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[1] *Price Cap Performance Review for Local Exchange Carriers; Access Charge Reform,* Fourth Report and Order in CC Docket No. 94-1 and Second Report and Order in CC Docket No. 96-262, 62 Fed. Reg. 31939 (June 11, 1997) ("Price Cap Order").

[2] See Oppositions filed by the United States Telephone Association ("USTA Opposition"), pp. 8-10; Bell Atlantic ("Bell Atlantic Opposition"), pp. 7-10; and GTE ("GTE Opposition"), pp. 5-8.

calculations."[3] Bell Atlantic's claim is wrong, and reflects an inherent misunderstanding of how "spreadsheet" software operates. First, in common spreadsheet programs such as Microsoft Excel and Lotus 1-2-3, numerous computational functions that were used by the models presented by USTA and AT&T in this case, such as the performance of linear regression calculations, are "hard wired" into the software and, contrary to Bell Atlantic's erroneous belief, are not "specified" in the form of their elemental "operations" (e.g., matrix inversions, vector products, etc.) so that "any party could review the calculations." The software that Ad Hoc used, Time Series Processor ("TSP") offers econometricians the same, and additional, computational capabilities as do spreadsheet programs.

Incredibly, while Bell Atlantic suggests that Ad Hoc's use of TSP has the effect of "straining [the Commission's] already limited resources," precisely the opposite is the case.[4] In order to evaluate a complex spreadsheet such as the Christensen model, one is required to examine in profuse detail each and every calculation and trace each and all of the values and formulas that underlie it. Each one of these calculations is necessarily idiosynchratic since there is no "standard" template for various elements of the TFP computations that are embodied in the Christensen spreadsheet. By using a standard, well-known, highly respected and widely used econometric analysis package that embodies an array of generally accepted econometric analysis techniques (the economics profession's counterpart of "generally accepted accounting practices"), Ad Hoc has worked to simplify, not complicate, the Commission's work. TSP documentation

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3 Bell Atlantic Opposition at 7.

4 *Id.*, at 8.

contains full and complete technical descriptions and details of all embedded functions (e.g., the calculation of the Divisia Index) and the precise computational methods are widely known, accepted and utilized throughout the economics profession. Where the Commission must examine spreadsheet computations "with a fine-toothed comb," it and other parties can confidently accept standard and widely used analysis software such as TSP. Ad Hoc elected to use TSP because it simplified the specification of the model, significantly reduced the possibility of error, and permitted examination and analysis on the substance and merits of the model rather than on its mechanics. Neither the Commission nor any other party has shown any specific error either in the TSP computations or in Ad Hoc's use of TSP.

GTE echoes much of Bell Atlantic's spurious arguments about the "software" issue, but then baldly asserts that "the methodology and documentation underlying Ad Hoc's productivity calculation was not available to the Commission or other parties."[5] That claim is patently false. As Patricia Kravtin stated *under oath* in her Declaration accompanying Ad Hoc's Petition:

> 10. Subsequent to the filing of the initial Ad Hoc Report in CC Docket 94-1, a number of Ad Hoc's legal and economic advisors, including myself and other ETI personnel, had numerous telephone conversations and *ex parte* meetings with FCC staff members regarding the Ad Hoc models. At no time was there any indication given to suggest that (1) the FCC considered Ad Hoc's use of TSP to be a problem, (2) that FCC economists were unfamiliar with the TSP software; and/or (3) that the FCC did not have access or could not readily gain access to the TSP software. Indeed, to the extent that any of the above conditions were true, Ad Hoc would have undertaken to provide the FCC with a

[5] GTE Opposition at 7-8.

copy of TSP and would have been available to instruct any FCC economist unfamiliar with the TSP program.

Moreover, in no sense was the Ad Hoc model not available to other parties as GTE claims. ETI provided full and complete citations to the source of the TSP software and published documentation; that GTE or other parties elected not to acquire a copy (which can be purchased for $400, an amount that is roughly comparable to the price of a Lotus 1-2-3 or Microsoft Excel license) hardly makes it "not available." And at no time did GTE request from Ad Hoc any "work papers and any other data necessary to replicate the results submitted [by Ad Hoc] in the proceeding."[6] Thus, GTE has no factual basis upon which to make any claim concerning the availability and/or usefulness of Ad Hoc's work papers. Indeed, the only party to explicitly request Ad Hoc's work papers was USTA. USTA requested, and was promptly provided with, a copy of diskettes containing the Ad Hoc analysis, including the full set of data and TSP code. As with the FCC staff, USTA gave no indication whatsoever to Ad Hoc's legal counsel or economic consultants of any difficulties relating to the availability or use of TSP that would in any way impede USTA's ability to analyze the Ad Hoc analysis.

II. THERE IS NO RECORD SUPPORT FOR THE COMMISSION'S ASSUMPTION THAT THE CORRECT HEDONIC INPUT PRICE ADJUSTMENT IS ZERO.

Bell Atlantic opposes the use of an hedonic price adjustment to the input price series, citing and supporting the Commission's finding that the Committee's proposed hedonic adjustment is an "unsupported assumption."[7] While Ad Hoc was not

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6 *Id.*, at 6.

7 Bell Atlantic Opposition at 9.

able to provide a specific quantification of such an adjustment, it did demonstrate that it was likely to be substantial.[8] On that basis, Ad Hoc proposed a modest, highly conservative adjustment of only 10% to be applied to the ILECs' computer and computer-related assets. While Bell Atlantic describes this as an "unsupported assumption," it ignores entirely the fact that the adoption of a zero adjustment by the Commission is even more unsupported.

Even Bell Atlantic readily concedes the "proposition that technology improvements have increased the capacity of computers."[9] Computers and computer components constitute the predominant capital input to a modern telecommunications network. Central office switches are computers. Digital loop carrier (DLC) systems are computers. Operations Support Systems are networks of computers. Fiber optic trunk termination and multiplexing equipment consists of computers and similar digital components. Ad Hoc presented uncontroverted evidence that the prices of these components are falling and that their capacities are mushrooming. It is also uncontroverted that the "Telephone Plant Indices" (TPIs) that were used in the Christensen model as the source for its input price indices do not consider capacity enhancements to individual plant components, only the aggregate purchase price of the component itself.[10] If the only two values for an hedonic adjustment that are in this record are the 0% that USTA and its members support or the highly conservative 10% that Ad

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[8] Selwyn, Lee L. and Patricia Kravtin, *Establishing the X-Factor for the FCC Long-term LEC Price Cap Plan*, prepared for Ad Hoc, CC Docket 94-1, Dec. 1995, at 36-39. ("ETI").

[9] Bell Atlantic Opposition at 9.

[10] ETI at 40-42.

Hoc has recommended for carrier computer-related assets, there can be no question but that 10% is a lot closer to reality than 0%. No party, not USTA, not GTE, has offered any affirmative support for the use of a 0% hedonic adjustment, they have only asserted that Ad Hoc's 10% is not explicitly supported as to its precise numeric value. That exact same criticism must be applied to the use of a 0% adjustment, except that, unlike Ad Hoc's 10%, there is no record support at all for the proposition that no hedonic changes in ILEC inputs have taken place.

Finally, Bell Atlantic suggests that if any positive hedonic adjustment is to be adopted for the telecommunications sector, then it would also be necessary to apply an hedonic adjustment for economy-wide input prices.[11] Bell Atlantic seems to presuppose that the economy-wide hedonic adjustment is positive, which it may or may not be. While certain sectors (like computers and telecommunications) clearly exhibit positive hedonic effects, for others, such as health care, the opposite is likely the case. The correct interpretation of the 10% adjustment that Ad Hoc recommends is that the effect of hedonic changes in inputs in the telecommunications sector is *at least* 10% greater than that for the economy as a whole. There is no support whatsoever for Bell Atlantic's suggestion that product and capacity improvements extant in the inputs to the telecommunications sector are no different than that for the economy as a whole.

III. CRITICISMS REGARDING VARIABILITY IN THE INPUT PRICE DATA USED BY AD HOC ARE MISPLACED

Several parties contend that, even if the Ad Hoc model is not dismissed under the "proprietary software" theory, it still suffers from various deficiencies that justify

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[11] Bell Atlantic Opposition at 9-10.

its rejection by the Commission. In particular, parties criticize the Ad Hoc model because the input price data upon which it relies exhibited large year-over-year variation.

Such criticisms had been leveled against the Ad Hoc model when it was first submitted in response to the *Fourth Further Notice*. Parties then contended that this variation invalidated Ad Hoc's (and AT&T's) contention that the Commission must incorporate an input price adjustment into the X factor calculation. In fact, the input price data series that was used in the Ad Hoc model is essentially the same data that was used by Christensen, by AT&T, and by the Commission staff. As Ms. Kravtin notes in her Declaration:

> 18. Even the model developed by the FCC Staff and upon which the FCC relies in setting the X-Factor exhibits a considerable degree of year-to-year fluctuation in input price growth rates and the associated input price differential. For example, the input price index calculated under the FCC Staff model ranges from +4.94% (in the year 1986) to –2.36% (in the year 1989), with the corresponding input price differential ranging from –2.13% (in the year 1986) to +0.21% (in the year 1992). [footnote omitted]

but also notes that:

> 17. Other than these consistent adjustments for corrections to the USTA model, the remaining fluctuations observed in the Ad Hoc model's input price differential are a function of the underlying empirical data rather than the choice of modeling technique. The fluctuations are not limited, as the Commission implies, to the Ad Hoc and original USTA models. The fluctuations are attributed to the natural variation occurring in the underlying data used in the development of the input price differential, the input price index for the LECs – which is comprised of factor price indices for labor, materials, and capital, weighted by the relative factor shares, and the benchmark input price index for the economy as whole (GDP-PI in the case of the Ad Hoc Model, the U.S. Nonfarm Business Sector input price index in the case of the FCC Staff model).

The central points are that: (1) the FCC has adopted the use of an input price differential in its X factor calculations as both Ad Hoc and AT&T have recommended, and in so doing

has rejected claims by USTA and others that no such differential could be demonstrated due to the presence of the large year-over-year variations; and (2) Ad Hoc, AT&T and the Staff's models all smooth out these year-over-year variations and rely instead upon input price changes over a specified period of time. Thus, the relative magnitude of year-to-year variation existing across all models has no practical relevance in the context of the input price change result for the entire study period upon which the X factor is based. All of the input price series used by the various models produce essentially the same results. There is no reasonable basis for rejecting Ad Hoc's use of the input price differential data while accepting the AT&T and Staff models.

A. Ad Hoc's 9% X Factor Differs From The 6.5% Adopted By The Commission Due To Jurisdictional And Hedonic Adjustments, Not Input Price Data.

In criticizing the apparent "variability" in the input price data used in the Ad Hoc model, USTA and the ILECs obscure the central sources of the differences between Ad Hoc's and the Commission's X factor results. The Commission has adopted and accepted as valid Ad Hoc's (and AT&T's) incorporation of an input price adjustment to the TFP-based X factor. There is little substantive difference between the quantitative magnitude of the input price differential identified by Ad Hoc and that identified by the Staff. The principal differences between the 9% X factor produced by the Ad Hoc model and the 6.5% adopted by the Commission is that the Ad Hoc result reflects (1) the use of interstate-only productivity growth, and (2) hedonic input price adjustments.

B. It Is Entirely Possible To Calculate An Interstate-Only TFP, And Doing So Is No More "Arbitrary" Than The Jurisdictional Separations Process Under Which All Investments And Expenses Are "Assigned" To The Interstate Jurisdiction.

USTA, Bell Atlantic, GTE and US West reject the use of an interstate-only TFP calculation on the basis that such a calculation is necessarily "arbitrary." USTA, for example, goes so far as to equate legally required cost and revenue separations with an effort to separate the costs of "blue" vs. "red" paper clips produced by a common manufacturing process.[12] This comparison is, of course, entirely irrelevant, because no such blue/red separation is legally required.

Interstate rates are based in large part upon costs assigned to the interstate jurisdiction pursuant to Part 36 of the Commission's rules. There is no question but that those separations rules are, in the eyes of an economist, arbitrary. But as long as the jurisdictional divide exists, a condition that the LECs favor for some purposes, the separations rules are necessary. They will only cease being necessary when Congress amends the Communications Act in relevant respect. Until such amendments are enacted, the Commission must make a determination of the ILECs' interstate productivity. The interstate assignment of costs and revenues provides a fully sufficient, entirely quantifiable basis for performing such TFP calculations.

In *Louisiana Pub. Serv. Comm'n. v. FCC*, 476 U.S. 355 (1986), the United States Supreme Court rejected similar claims of arbitrariness in reference to the use of different depreciation rates and practices for the same plant based upon jurisdictional allocation. The Court concluded that such allocations and the calculation of separate

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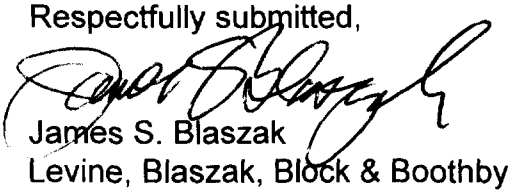
[12] USTA Opposition at 3-5.

state and interstate depreciation charges was not "impossible" because it could be accomplished computationally. The identical principle applies here: It is computationally possible to perform an interstate-only TFP computation, and such a calculation must be made, regardless of the theoretical preferences of some economists.

CONCLUSION

No party has persuasively refuted Ad Hoc's Petition for Reconsideration in the above-captioned proceeding. Accordingly, Ad Hoc renews its request that the Commission reconsider its Price Caps Order by: (1) withdrawing its invitation to long distance carriers to unilaterally abrogate long term service agreements that they have entered into with end users and (2) canceling the imposition of new distinct universal service contribution obligations on systems integrators and payphone aggregators.

Respectfully submitted,



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Certificate of Service

I, Andrew Baer, hereby certify that true and correct copies of the preceding Reply of the Ad Hoc Telecommunications Users Committee to Oppositions to the Petition for Reconsideration in the Price Cap Performance Review for Local Exchange Carriers, CC Docket No. 94-1, were served this 2nd day of September, 1997 upon the following:

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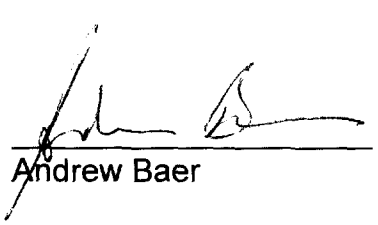

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